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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/214,519	01/07/1999	TOSHIAKI HASHIZUME	101850	8609

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EXAMINER
LEROUX, ETIENNE PIERRE

ART UNIT	PAPER NUMBER
2858	

DATE MAILED: 09/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/214,519	Hashizume et al
Examiner	**Art Unit**
Etienne LeRoux	2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Aug 22, 2002*

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-19* is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-19* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Finality Withdrawn

The finality of the rejection of the last Office Action is hereby withdrawn.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 6-9 are rejected under 35 U.S.C.102(b) as being anticipated by USPAT 5,508,834 to Yamada et al (hereafter Yamada).

3. Regarding claims 1 and 4, Yamada discloses an optical modulation device [Fig 5, 1 and col 1, lines 33-46], a transparent plate [Fig 5, 6 and col 4, lines 1-7] bonded to at least one surface of the optical modulation device.

Regarding claims 2 and 9, Yamada discloses a polarizer bonded to the transparent plate [Fig 5, 8].

Regarding claim 4, Yamada discloses a light source [Fig 2, 208], a projection unit [Fig 2, 209].

Regarding claim 6, Yamada discloses the transparent plate thickness is larger than the focal depth of the projection unit [col 4, lines 15-25]

Regarding claim 7, Yamada discloses the transparent plate is made of resin [col 6, line 60], a polarizer [Fig 7, 9] between the transparent plate [Fig 7, 7] and the projection unit [Fig 2, 209]

Regarding claim 8, Yamada discloses the polarizing layer [Fig 6, 8] is sandwiched between substrates [Fig 6, 6 and Fig 6, 2].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of USPAT 5,865,521 to Hashizume et al (hereafter Hashizume).

Regarding claim 5, Yamada discloses the essential elements of the claimed invention except for an antireflection film formed on at least one surface of the transparent plate. Hashizume discloses an antireflection film [Fig 12, 632]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamada to include the antireflection film as taught by Hashizume for the purpose of eliminating reflections from the substrate in order to provide an efficient reflection-type liquid crystal device [col 21, lines 10-55].

5. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of USPAT 3,910,682 to Arai et al (hereafter Arai).

6. Regarding claims 3 and 10, Yamada discloses the essential elements of the claimed invention except for the transparent plate being coated with a surface active agent. Arai discloses a transparent plate being coated with a surface active agent [Fig 2, 2]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamada to include a transparent plate being coated with a surface active agent as taught by Arai for the purpose of omitting the washing step [col 2, lines 45-55].

7. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of USPAT 5,868,485 to Fujimori et al (hereafter Fujimori '485).

Regarding claims 11, Yamada discloses the essential elements of the claimed invention except for a color synthesizing prism, a mounting frame plate composed of a first frame member, a second frame member that sandwich said optical modulation device, a fixed frame plate n a fixed contact with a light incident surface of said color synthesizing prism, an intermediate frame plate sandwiched between said mounting frame plate and said fixed frame plate. Fujimori '485 discloses a color synthesizing prism [Fig 5, 22], a mounting frame plate composed of a first frame member [Fig 5, 52], and a second frame member [Fig 5, 55] that sandwich said optical modulation device [Fig 5, 40R], a fixed frame plate [Fig 5, 54] in a fixed contact with a light incident surface of said color synthesizing prism, an intermediate frame plate sandwiched [Fig 5,

53] between said mounting frame plate and said fixed frame plate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamada to include a color synthesizing prism, a mounting frame plate composed of a first frame member, a second frame member that sandwich said optical modulation device, a fixed frame plate in a fixed contact with a light incident surface of said color synthesizing prism, an intermediate frame plate sandwiched between said mounting frame plate and said fixed frame plate as taught by Fujimori '485 for the purpose of mounting the liquid crystal panel unit [Fig 5].

Regarding claim 12, Yamada discloses the essential elements of the claimed invention except for the mounting plate being made of resin. Fujimori '485 discloses the mounting frame plate being made of resin [col 10, line 15]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamada to include the mounting plate being made of resin as taught by Fujimori '485 for the purpose of using a mounting plate which can be easily manufactured.

Regarding claim 13, Yamada discloses the essential elements of the claimed invention except for a metal mounting frame. Fujimori '485 discloses a metal mounting frame [col 10, lines 40- 48]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamada to include a metal mounting plate as taught by Fujimori '485 for the purpose of using a mounting plate which can withstand high heat.

Claims 14-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPAT 6,007,205 to Fujimori (hereafter Fujimori '205) in view of Yamada.

Regarding claims 14 and 19, Fujimori '205 discloses: a light source [Fig 7, 8], a plurality of optical modulation devices [Fig 12, 925R, 925G, 925B] that modulate a light flux emitted from the light source according to image information, a prism [Fig 11, 910] that synthesizes the light flux modulated by said plurality of optical modulation devices and said prism from said light source and said projection unit, a projection unit [Fig 8, 6] that magnifies and projects the light flux synthesized by said prism, a partition [Fig 12, 1500] that surrounds said plurality of optical modulation devices and said prism via an air layer [Fig 12] and thereby separates said plurality of optical modulation devices and said prism from said light source and said projection unit, a light outgoing window [Fig 8], a power supply unit [Fig 2, 7], an interface circuit [Fig 2, 11], a control circuit [Fig 2, 12], an outer casing [Fig 1A, 2]

Regarding claim 14, Fujimori '205 discloses the essential features of the claimed invention except for a transparent plate fitted in a light incident window. Yamada discloses a transparent plate fitted [Fig 5, 6] fitted in a light incident window. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fujimori '205 to include a light incident window fitted with a transparent plate as taught by Yamada for the purpose of reducing the adverse effect of foreign matter on the image quality [col 4, lines 20-24].

Regarding claim 15, Fujimori '205 discloses a fan [Fig 9, 15B]

Regarding claim 16, Fujimori '205 discloses the essential elements of the claimed invention except for a polarizer bonded to a transparent plate. Yamada discloses a polarizer [Fig 5, 8] bonded to a transparent plate [Fig 5, 6]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fujimori '205 to include a polarizer bonded to a transparent plate as taught by Yamada for the purpose of reducing the adverse effect of foreign matter on the image quality [col 4, lines 20-24].

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Fujimori '205 and Yamada as applied to claim 14, and further in view of USPAT 3,910,682 to Arai.

Regarding claim 17, the modified teaching of Fujimori '205 discloses the essential elements of the claimed invention except for the transparent plate being coated with a surface active agent. Arai discloses a transparent plate being coated with a surface active agent [Fig 2,2]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Fujimori '205 to include the transparent plate being coated with a surface active agent as taught by Arai for the purpose of omitting the washing step [col 2, lines 45-55].

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of Fujimori '205.

Regarding claim 18, Yamada discloses a light source [Fig 2, 208], an optical modulation device [Fig 2, Fig 7, Fig 5, 1 and col 1, lines 33-46 and col 1, lines 60-67] that modulates a light flux emitted from the light source according to image information, a transparent plate [Fig 5, 6] bonded to a light emitting surface of said optical modulation device.

Regarding claim 18, Yamada discloses the essential features of the claimed invention except for a power supply unit, an interface circuit, a control circuit that controls the optical modulation device, and an outer casing that accommodates the light source, the optical modulation device, the transparent plate, the power supply unit, the interface circuit, and the control circuit. Fujimori '205 discloses a power supply unit [Fig 2, 7], an interface circuit [Fig 2, 11], a control circuit [Fig 2,12] that controls the optical modulation device, and an outer casing [Fig 1A, 2] that accommodates the light source, the optical modulation device, the transparent plate, the power supply unit, the interface circuit, and the control circuit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamada to include a power supply unit, an interface circuit, a control circuit that controls the optical modulation device, and an outer casing that accommodates the light source, the optical modulation device, the transparent plate, the power supply unit, the interface circuit, and the control circuit as taught by Fujimori '205 for the purpose of providing a projection display apparatus.

Response to Arguments

8. Applicant's arguments filed 8/22/2002 have been fully considered but they are not persuasive.

Examiner's Response Regarding Claim 1:

Applicant states on page 19, "For example, Fig. 5 of the 834 patent does not disclose or suggest an optical modulation device, and a transparent plate bonded to at least one surface of the optical modulation device, as claimed in claim 1." Examiner is not persuaded. Regarding the claimed optical modulation device, examiner maintains the 834 patent's Figure 5, No. 1, - the liquid crystal cell in combination with Figure 5, No. 3 - the color filter substrate and in combination with Figure 5, No. 2 - the thin film transistor substrate comprises the essential elements of a liquid crystal display device which reads on the claimed optical modulation device per the following extract from Yamada's teaching in column 1, lines 12-46:

In order to clarify the background of the present invention, an example of a conventional liquid crystal display device will now be briefly explained with reference to FIG. 1. A pixel array in the form of a matrix is formed on one inner surface of a substrate 101. Each pixel is composed of a thin film transistor (TFT) for driving and a pixel electrode 102 formed by patterning a transparent conductive film. A drain electrode of each TFT is connected to the associated pixel electrode 102, a source electrode thereof is connected to a data line 104, and a gate electrode thereof is connected to a scan line 105. The substrate in which the TFTs and the like are thus formed in an integral manner will be referred to as a TFT substrate. Color filters (CF) 107 composed of RGB three-primary color segments and opposite electrodes 108 are laminated on one inner surface of the other substrate 106. The individual color filter segments are in alignment with the pixel. The substrate in which the color filters and the like are thus formed will be referred to as a CF substrate. A liquid crystal layer 109 is filled in a gap defined between the TFT substrate and the CF substrate 106. Polarizing plates 110 and 111 are attached directly to the outer surfaces of both

the substrates 101 and 106, respectively. When the TFTs are electrically connected through the scan line 105 for every row, an image signal to be fed from the data line 104 is written in each pixel electrode 102. A voltage is applied between the pixel electrode 102 and the opposite electrode 108 in response to the stored image signal to thereby change a molecular arrangement of the liquid crystal layer 109. **This change is picked up as a change in transmittivity to thereby bring about the image display. The liquid crystal display device having such a structure is referred to as an active matrix type LCD.** It should be noted that a liquid crystal display device to which the present invention pertains is not limited to this type LCD and it should be understood that the LCD is shown by way of example.

The above teaching by the 834 patent agrees with the following disclosure taken from Applicant's specification, beginning on page 1, line 22 and continuing through page 2, line 8:

As shown in this Figure, an optical system of an optical unit 9a includes a lamp body 81 serving as a light source, a color separation optical system 924 for separating a light flux W emitted from the lamp body 81 into color fluxes R, G, B of the primary colors, red (R), green (G), and blue(B), **three liquid crystal modulation elements (optical modulation elements) 925R, 925G, and 925B for modulating each of the separated color light fluxes according to image information,** and a color synthesizing prism 910 in the shape of a prism with a square cross section to synthesize the modulated color light fluxes.

Furthermore, the above teaching by the 834 patent agrees with Applicant's disclosure on page 3, lines 15 through 18 which is given below:

As the liquid crystal modulation elements 925R, 925G, and 925B, an active-matrix liquid crystal device is generally used, in which pixels arranged in a matrix are controlled by a switching element.

Examiner concludes the claimed optical modulation device and the 834 patent's liquid crystal display device are equivalent as they are both an active-matrix type liquid crystal device.

Regarding the claimed transparent plate, examiner maintains the following disclosure by Yamada, column 4, lines 1-22, reads on the claimed transparent plate:

A pair of transparent cover members 6 and 7 are mounted on outer surfaces of the liquid crystal cell 1. Each of the transparent members is formed in a predetermined configuration. In the embodiment shown, **the transparent members are substantially flat and provided with central recess portions and peripheral flank or flange portions which are in contact with the liquid crystal cell 1**. Polarizing plates 8 and 9 are attached to the pair of transparent cover members and 7, respectively. In the embodiment shown, the polarizing plates are attached to the surfaces of the transparent cover members 6 and 7. The polarizing plates 8 and 9 are arranged at a sufficient interval from the liquid crystal cell 1 through the transparent cover members 6 and 7 unlike the conventional arrangement. Accordingly, when the liquid crystal display device is applied to a viewfinder or a projector, in the case where the focal plane of the enlargement lens system is in alignment with the liquid crystal layer 5, for example, even if the foreign matter such as dust or fluff is attached to the polarizing plates 8 and 9, there is no adverse effect to the image quality because the location of the foreign matter is out of the depth of focus of the enlargement lens system.

Applicant states on page 20, "Contrary to the Office Action's position, the liquid crystal 5 is not an optical modulation device. Further, the liquid crystal does not comprise a surface wherein a transparent plate can be bonded to it." Examiner is not persuaded. Regarding the equivalence of the 834 patent's liquid crystal display device with the claimed optical modulation device, Applicant is referred to supra argument(s). Furthermore, the 834 patent's Figure 5 clearly shows a transparent plate bonded to each surface of the liquid crystal cell.

Applicant states on page 20, "Elements 16, 17 (Fig. 4) of the 834 patent are light shielding plates (col. 6, lines 10-16) which are merely frames having an aperture at the center." Examiner is

not persuaded. Examiner did not cite above Figure 4 in the Office Action. Nonetheless, in order to clarify the record, above referenced section, column 6, lines 10-16 is reproduced below.

FIG. 4 shows a conventional light-shielding structure for comparison. The same reference numerals are used to indicate the same components or members as those of the third embodiment shown in FIG. 8 for readily understanding the difference therebetween. Conventionally, in order to shield and shut out the non-effective image field regions of the liquid crystal cell 1, a pair of light-shielding plates 16 and 17 specialized for this purpose are used along the periphery of the liquid crystal cell 1. The light-shielding regions 162 and 172 in the form of frames are provided along the respective light-shielding plates 16 and 17. In this case, it is necessary to perform the alignment of the light-shielding plates 16 and 17 relative to the liquid crystal cell 1 with high precision, and the assembling work becomes complicated. Also, since it is necessary to provide the parts specialized only for the light-shielding or-masking, the number of the parts is increased.

Based on the above, it is apparent that Figure 4 merely shows a conventional light-shielding structure for comparison and is not an embodiment of the 834 patent's invention. Furthermore, plates 16 and 17 are substantially transparent except for light shielding regions 162 and 172.

Applicant states on page 20 "the 834 patent discloses two transparent cover members 6, 7 as shown in Figure 5, that are disposed such that air gaps are created between the transparent cover members **and the optical modulation device 1**." Examiner is not persuaded. Examiner maintains the presence of the air gap(s) does not prevent the 834 patent from reading on the claimed invention, in particular "a transparent plate bonded to at least one surface of the optical modulation device." Examiner is gratified to note that Applicant correctly identifies the 834 patent's liquid crystal cell, i.e., Figure 5, 1 as an **optical modulation device.**

Applicant states on page 20 "the 834 patent does not provide the advantage of reducing heat from being transmitted to the optical modulation device in helping to reduce the deterioration

of the optical properties of the optical modulation device. The structure of the 834 patent is completely devoid of the above-discussed advantages." Examiner is not persuaded. In response to Applicant's argument that the reference fails to show certain features of Applicant's invention, it is noted that the features upon which Applicant relies (i.e., the advantage of reducing heat from being transmitted to the optical modulation device in helping to reduce the deterioration of the optical properties of the optical modulation device) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Examiner's Response Regarding Claim 2:

Applicant states on page 20, "Claim 2 depends from claim 1. Dependent claim 2 is likewise distinguishable over the 834 patent for at least the reasons discussed as well as for additional features it recites." Examiner is not persuaded. Applicant is referred to above for reasons why claim 1 does not distinguish over the cited prior art and furthermore, Applicant is referred to supra Office Action for the rejection of the elements of claim 2.

Examiner's Response Regarding Claim 3:

Applicant states on page 21, "Claim 3 depends from claim 1. Further, the 573 patent does not make up for the deficiencies of the 834 patent relative to claim 1. In particular, there is no

teaching, disclosure or suggestion in the 573 patent for a transparent plate bonded to at least one surface of an optical modulation device as recited in claim 1." Examiner is not persuaded. In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, the 573 patent concerns a conventional electro-optical device with an active matrix liquid crystal display device [col 1, lines 10-15] per the claimed invention. The 573 patent includes an electrostatic protection circuit to protect the electro-optical device to protect the device from electrostatic destruction during and after the fabrication process [col 1, lines 55-60]. Examiner maintains that one of ordinary skill in the art at the time of the invention would have found it obvious to modify the invention of the 834 patent to include electrostatic protection to prevent damage to the liquid crystal display device disclosed by the 834 patent.

Examiner's Response Regarding Claim 4:

On pages 21 and 22, Applicant asserts the 834 patent does not disclose an optical modulation device and a transparent plate. Applicant is referred to above discussion regarding claim 1. Furthermore, Applicant states on page 22, "the 834 patent does not provide the advantage of reducing heat from being directly transmitted to the optical modulation device in helping to reduce the deterioration of the optical properties of the optical modulation device. The

structure of the 834 patent is completely devoid of the above-discussed advantages." Examiner is not persuaded. In response to Applicant's argument that the references fail to show certain features of Applicant's invention, it is noted that the features upon which Applicant relies (i.e., the advantage of reducing heat from being directly transmitted to the optical modulation device in helping to reduce the deterioration of the optical properties of the optical modulation device) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Examiner's Response Regarding Claim 6:

Applicant states on page 22 the 834 patent does not disclose an optical modulation device nor a transparent plate. Applicant is referred to above discussion regarding claim 1. Furthermore, Applicant states, "the 834 patent does not disclose or suggest the transparent plate having a thickness with the thickness of the transparent plate being set larger than the focal depth of the projection unit, as recited in claim 6." Examiner is not persuaded. The following extract from the 834 patent col 2, line 64 through col 3, line 5, discloses teaching per the claimed invention:

According to the first aspect of the invention, the polarizer is located at a sufficient space away from the liquid crystal layer of the liquid crystal plate through the transparent cover member. Accordingly, even in the case where the image of the liquid crystal cell is projected through an enlargement lens system, foreign matter attached to the polarizer is located out of a depth of

focus of the enlargement lens system. Accordingly, there is almost no fear that an image quality would deteriorate.

Examiner's Response Regarding Claims 7-9

Applicant states on page 23, "Claims 7-9, which depend from claim 4, are likewise distinguishable over the 834 patent for at least the reasons discussed above, as well as for the additional features they recite. Thus, the 834 patent fails to anticipate the subject matter of claims 7-9 under 35 U.S.C. paragraph 102(b)." Examiner is not persuaded. Applicant is referred to above response regarding claim 4 and to supra Office Action for the rejection of the elements of Claims 7-9.

Examiner's Response Regarding Claim 5.

Applicant on page 23 states the 834 patent does not disclose an optical modulation device nor a transparent plate. Applicant is referred to above response by examiner regarding claim 1. Furthermore, Applicant states on page 23, "the Office Action has not cited any specific disclosure in the 834 and 521 patents for providing the motivation for modifying the combined apparatus to provide the missing claimed feature, i.e., the antireflection film formed on a light emitting surface of the optical modulation device." In response to Applicant's argument that there is no suggestion to combine the references, examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, examiner maintains it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the 834 patent to include the antireflection film as disclosed in the 521 patent for the purpose of improving the efficiency of the optical modulation device by preventing loss of light flux due to reflection at the light incident surface.

Examiner's Response Regarding Claim 10:

Applicant states on page 24, "the Office Action has not cited any specific disclosure in the 834 and 573 patents for providing the motivation for modifying the combined apparatus to provide the missing claimed feature, and it is submitted that no motivation exists to combine or modify the 834 and 573 patents to provide the missing claimed feature." Examiner is not persuaded. The motivation to modify the 834 patent and the 573 patent is given in the following, col 1, lines 54-60 of the 573 patent:

In view of the drawback of the prior art, an object of the present invention is to provide an electro-optical device of the type utilizing nonlinear two-terminal elements having high production yield rate and high reliability while being protected from electrostatic destruction during and after the fabrication process without additional production steps.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the 834 patent per the teaching of the 573 patent to include electrostatic protection for

the liquid crystal display device for the purpose of preventing the build-up of high electrostatic voltage and hence destruction of the liquid crystal device during and after the fabrication process.

Examiner's Response to Claims 11-13

Applicant on page 24, states the 834 patent does not disclose an optical modulation device nor a transparent plate. Applicant is referred to above response by examiner regarding claim 1.

Furthermore, Applicant states "it is submitted that no motivation exists to combine or modify the 834 and 485 patents to provide the missing claimed features." Examiner is not persuaded. In response to Applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the 834 patent to include the mounting frame plate as disclosed in the 485 patent for the purpose of securing the optical modulator, the transparent plate and the polarizer in a projection display apparatus.

Examiner's Response to Claim 14

Applicant states on page 25, "The invention recited in claim 14 is structurally different from Fig 12 of the 205 patent in numerous respects." Examiner is not persuaded. For convenience the relevant limitations of claim 14 are reproduced below. Examiner includes elements of patent 205 which read on the elements of the present invention:

a partition [Fig 12, 1500] that surrounds said plurality of optical modulation devices [Fig 12, 925R, 925G, 925B] and said prism [Fig 11, 910] via an air layer [Fig 12, 1511, 1560, 1561] and thereby separates said plurality of optical modulation devices [Fig 12, 1511, 1560, 1561] and said prism [Fig 11, 910] from said light source Fig 11] and said projection unit [Fig 9, 6], and a light outgoing window [Fig 12, 903] that emits light flux modulated by said at least one optical modulation device [Fig 12, 925R] therefrom.

Furthermore, Applicant states "The polarizing plates 981-983 are enclosed by a dustproof box 1500. Square openings 1501-1503 are provided in the three side walls of the box 1500 to which light is incident. Each of the openings 1501-1503 is enclosed in an airtight state by means of polarizing plate 981-983 fastened to the side wall from the inside thereof. The dustproof box 1500, from which light is emitted is open." Examiner is not persuaded. Examiner maintains the dustproof box to reads on the claimed "partition that surrounds said plurality of optical modulation devices." Furthermore, examiner points out that patent 205 structure is identical to Appellant's Figs 8A/B which indicate the claimed partition comprises walls of a box.

Examiner's Response to Claims 15-16

Applicant states on page 26, "Claims 15 and 16, which depend from claim 14, are likewise distinguishable over the 205 patent for at least the reasons discussed above, as well as for the additional features they recite. Thus, the 205 patent fails to anticipate the subject matter of claims 15-16." Examiner is not persuaded. Appellant is referred to above discussion of claim 14 and to supra Office Action for the rejection of the elements of claims 15 and 16.

Examiner's Response to Claim 17

Applicant states on page 26, "there is no teaching, disclosure or suggestion in the 573 patent for the elements of claim 14 missing in the 205 patent." Examiner is not persuaded. Applicant is referred to above discussion of claim 14. Furthermore, Applicant states "the Office Action has not recited any specific disclosure in the 205 and 573 patents for providing the motivation for modifying the combined apparatus to provide the missing claimed features, i.e., transparent plate having a surface coated with a surface active agent or treated for electrostatic protection. It is submitted that no motivation exists to combine or modify the 205 and 573 patents to provide the missing claimed feature. In fact, such a combination and modification constitutes an impermissible use of Applicant's disclosure based on hindsight reasoning." Examiner is not persuaded. For Applicant's convenience, col. 1, lines 54-60 of the 573 patent is reproduced below:

In view of the drawback of the prior art, an object of the present invention is to provide an electro-optical device of the type utilizing nonlinear two-terminal elements having high production yield rate and high reliability while being protected from electrostatic destruction during and after the fabrication process without additional production steps.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the 834 patent per the teaching of the 573 patent to include electrostatic protection for the liquid crystal display device for the purpose of preventing the build-up of high electrostatic voltage and hence destruction of the liquid crystal device during and after the fabrication process.

Examiner's Response to Claim 18

Applicant states on page 26, "The invention is structurally different from Fig. 5 of the 834 patent in numerous respects. For example, the 834 patent does not disclose or suggest an optical modulation device, and a transparent plate bonded to at least one surface of the optical modulation device, as claimed in claim 18." Examiner is not persuaded. Applicant is referred to supra discussion of claim 1.

Applicant states on page 27, "the 834 patent discloses two transparent cover members 6, 7 as shown in Figure 5, that are disposed such that air gaps are created between the transparent cover members 6, 7 and the **optical modulation device** 1. That is, these air gaps create a heat insulation layer which generates heat on the **optical modulation device**. Because of this insulation layer, the **optical modulation device** is adversely affected by the heat because the layer

prevents the heat from being dissipated. **Examiner once again is gratified to note that Applicant correctly identifies Fig 5, No. 1 of the 834 patent as an optical modulator.** Furthermore, in response to Applicant's argument that the references fail to show certain features of Applicnat's invention, it is noted that the features upon which applicant relies (i.e., air gaps create a heat insulation layer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Still further, examiner maintains the presence of the air gaps in the 834 patent does not prevent the 834 patent from reading on the claimed "transparent plate bonded to a light emitting surface of said optical modulation device."

Furthermore, Applicant states on page 27, "Because the 834 patent does not disclose a transparent plate bonded to at least one surface of the optical modulation device, it cannot provide advantages of the claimed invention. For example, the 834 patent does not provide the advantage of reducing heat from being directly transmitted to the optical modulation device in helping to reduce the deterioration of the optical properties of the optical modulation device." Examiner is not persuaded. Applicant is referred to above discussion regarding claim 1 regarding the transparent plate bonded to the optical modulation device. Furthermore, in response to Applicant's argument that the references fail to show certain features of Applicant's invention, it is noted that the features upon which applicant relies (i.e., the advantage of reducing heat from being directly transmitted to the optical modulation device in helping to reduce the deterioration

of the optical properties of the optical modulation device) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant states on page 27, "The 730 patent does not make up for the deficiencies of the 834 patent discussed above. In particular, there is not teaching, disclosure or suggestion in the 730 patent for a transparent plate bonded to at least one surface of an optical modulation device as recited in claim 18." Examiner is not persuaded. In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Examiner's Response to Claim 19

Applicant states on page 28, "The 834 patent does not disclose or suggest an optical modulation device and a partition that surrounds the optical modulation device, as recited in amended claim 19." Examiner is not persuaded. Applicant is referred to above discussion of claim 1 regarding the optical modulation device and to above discussion of claim 14 regarding the partition that surrounds the optical modulation device.

Applicant states on page 28, "the 730 patent does not disclose or suggest the feature of claim 19 missing from the 834 patent. The 730 patent does not suggest any partition." Examiner is not persuaded. Applicant is referred to above discussion of claim 14 regarding the claimed partition.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne (Steve) LeRoux whose telephone number is (703) 305-0620..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le, can be reached at (703) 308-0750.

Any inquiry of a general nature relating to the status of this application or processing procedure should be directed to the receptionist whose telephone number is (703) 308-0956.

Etienne LeRoux

September 25, 2002

N. Le
Supervisory Patent Examiner
Technology Center 2800